Week 1

Mobile App Development with React Native

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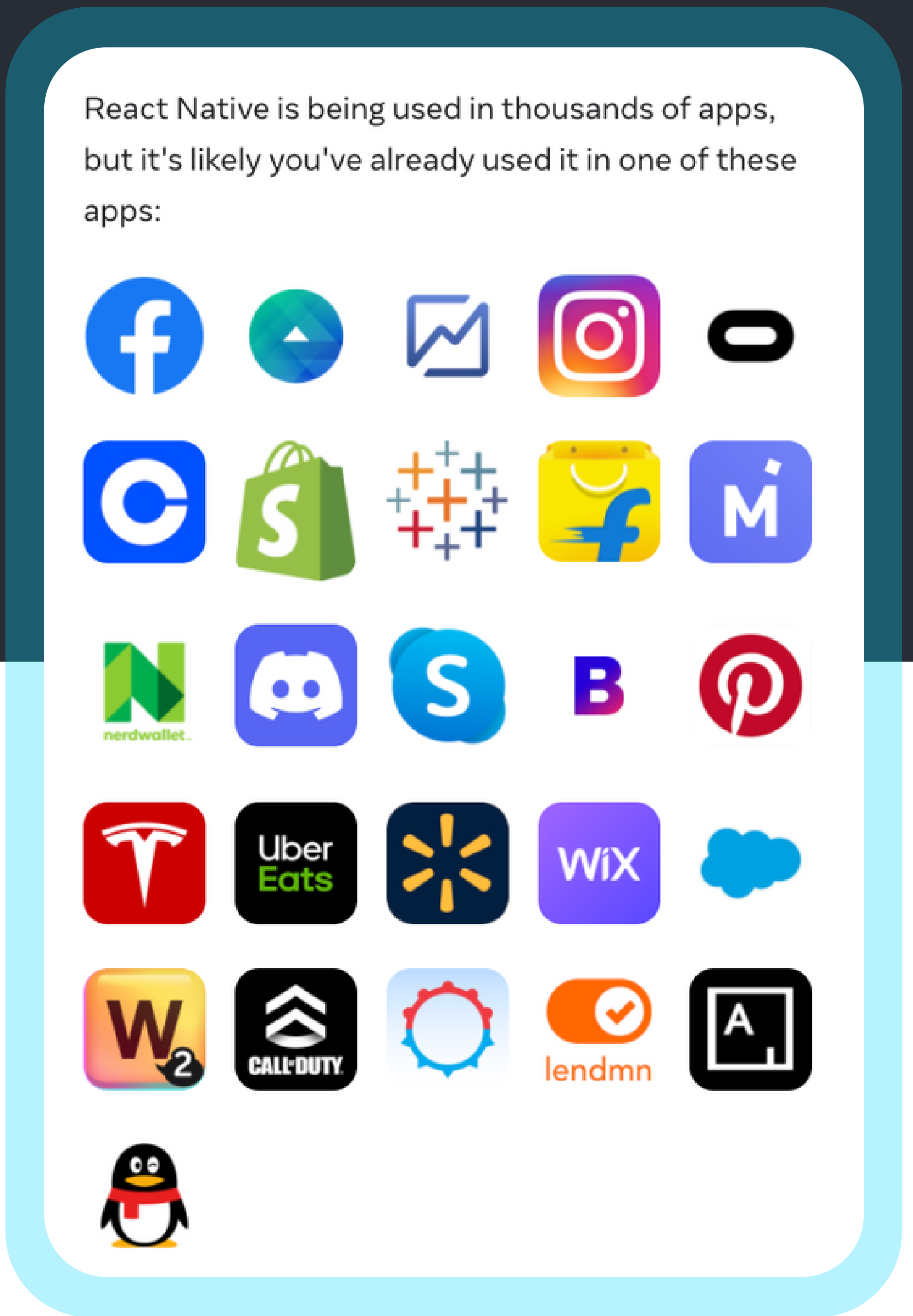
Introduction

React Native

Learn once, write anywhere.



React Native is being used in thousands of apps, but it's likely you've already used it in one of these apps:

Welcome to React

Step One

Edit App.js to change this screen and then come back to see your edits.

See Your Changes

Double tap R on your keyboard to reload your app's code.

Create native apps for Android and iOS using React

React Native combines the best parts of native development with React, a best-in-class JavaScript library for building user interfaces.

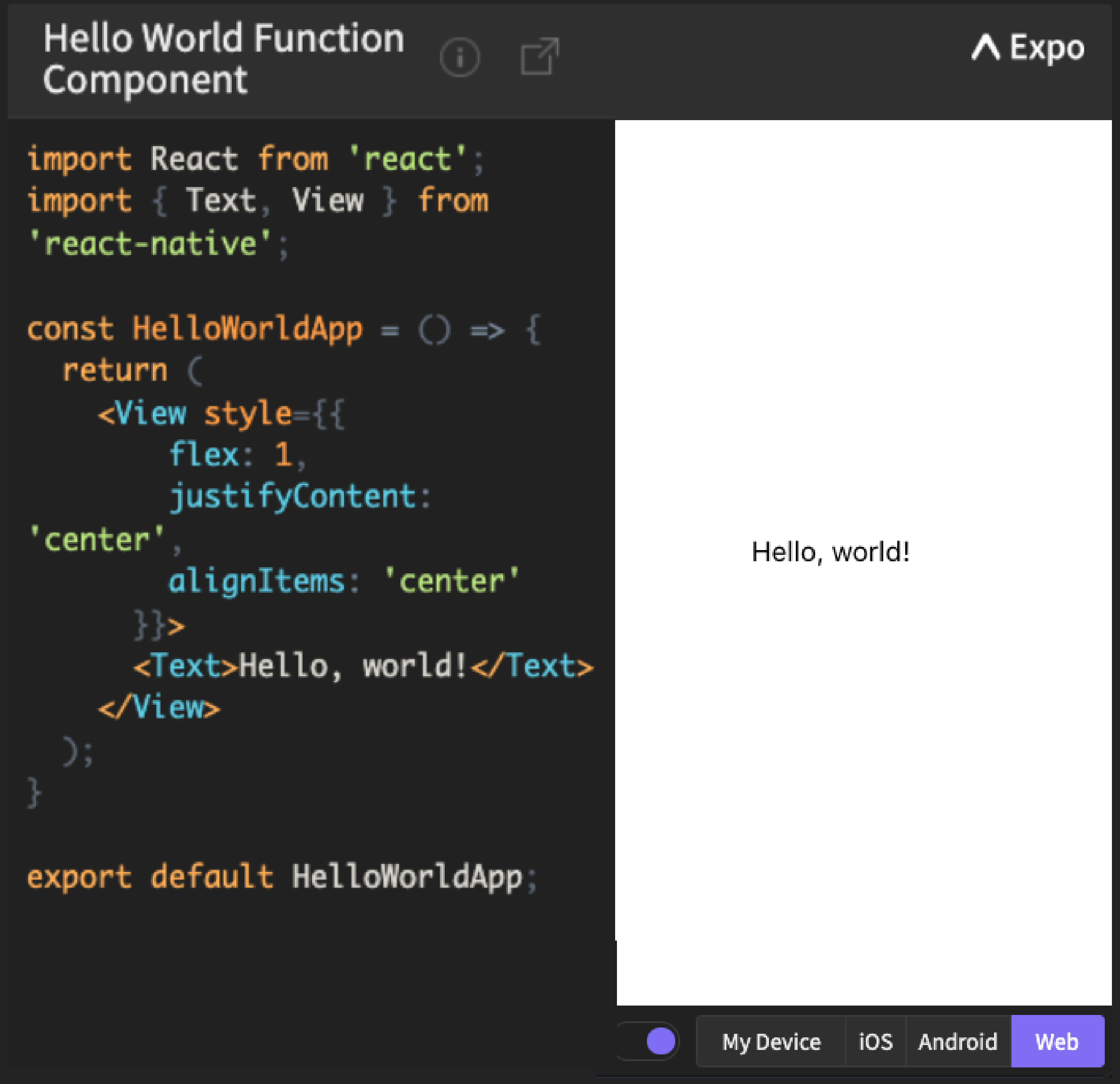
Use a little—or a lot. You can use React Native today in your existing Android and iOS projects or you can create a whole new app from scratch.

Prerequisite: JavaScript

Written in JavaScript—rendered with native code

React primitives render to native platform UI, meaning your app uses the same native platform APIs other apps do.

Many platforms, one React. Create platform-specific versions of components so a single codebase can share code across platforms. With React Native, one team can maintain two platforms and share a common technology—React.

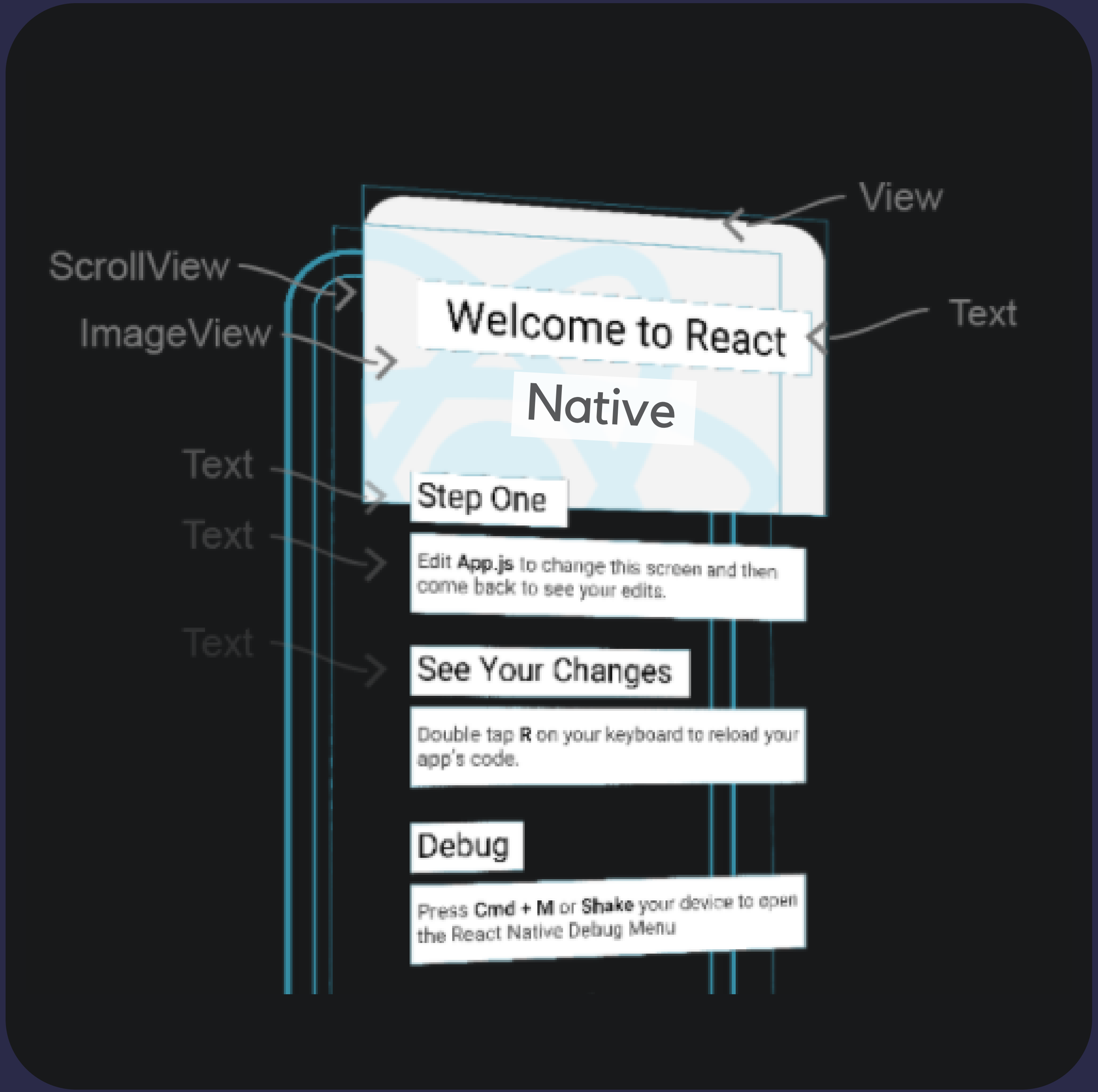


```
import React from 'react';
import { Text, View } from
'react-native';

const HelloWorldApp = () => {
  return (
    <View style={{
        flex: 1,
        justifyContent:
'center',
        alignItems: 'center'
      }}>
      <Text>Hello, world!</Text>
    </View>
  );
}

export default HelloWorldApp;
```

How React Native Works?



Welcome to React Native

Step One

Edit **App.js** to change this screen and then come back to see your edits.

See Your Changes

Double tap **R** on your keyboard to reload your app's code.

Debug

Press **Cmd + M** or **Shake** your device to open the React Native Debug Menu

React Native lets you create truly native apps by providing a core set of platform agnostic native components like View, Text, and Image that map directly to the platform’s native UI building blocks.

React components wrap existing native code and interact with native APIs via React’s declarative UI paradigm and JavaScript

Environment Setup

Dev Tools

1

Visual Studio Code

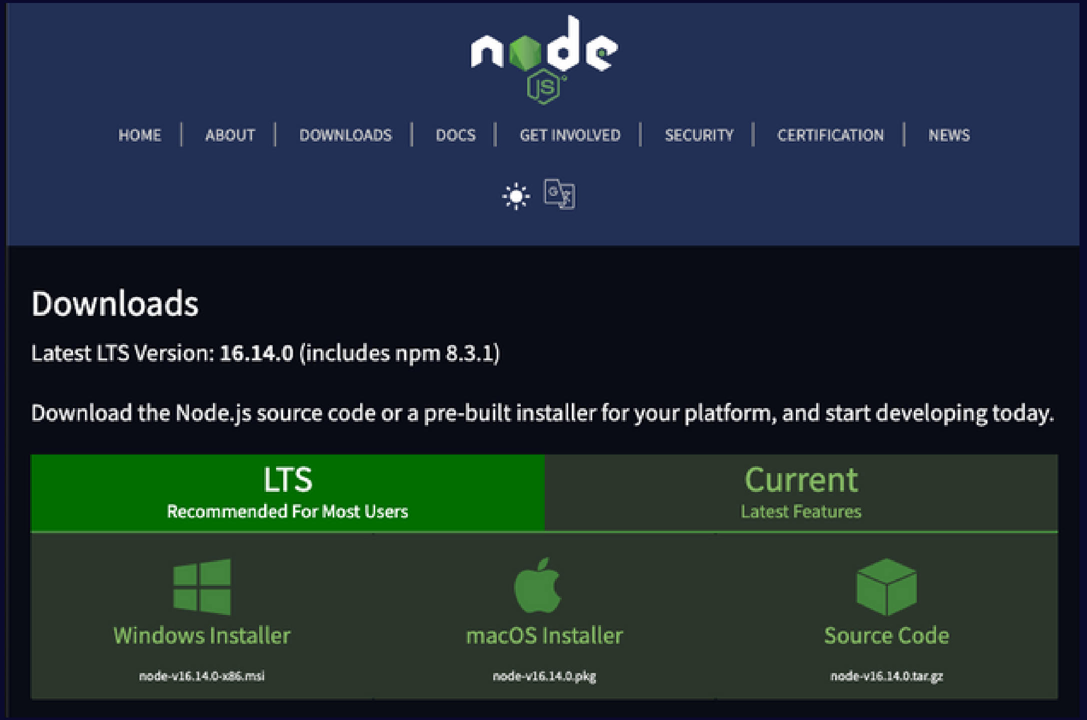
Useful VS Code extensions

- React native tools
- React-native/react/redux snippet
- Prettier
- Material icon
- Setting -> Format on save

2

node JS

https://nodejs.org/en/download/



node JS
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Downloads

Latest LTS Version: **16.14.0** (includes npm 8.3.1)

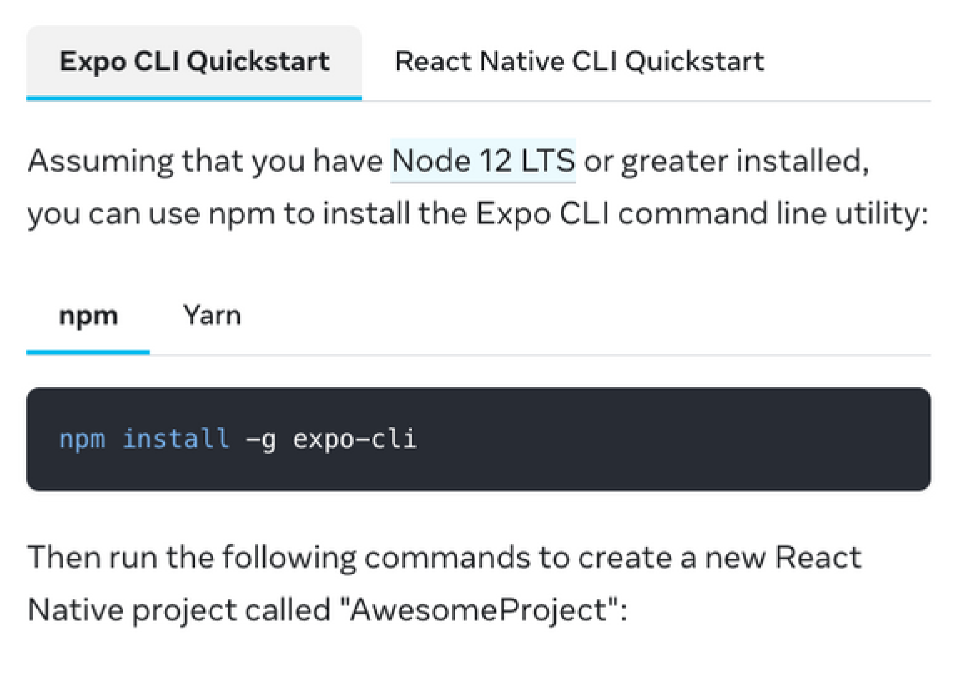
Download the Node.js source code or a pre-built installer for your platform, and start developing today.

LTS Recommended For Most Users		Current Latest Features
Windows Installer node-v16.14.0-x86.msi	macOS Installer node-v16.14.0.pkg	Source Code node-v16.14.0.tar.gz

3

Expo

https://reactnative.dev/docs/environment-setup



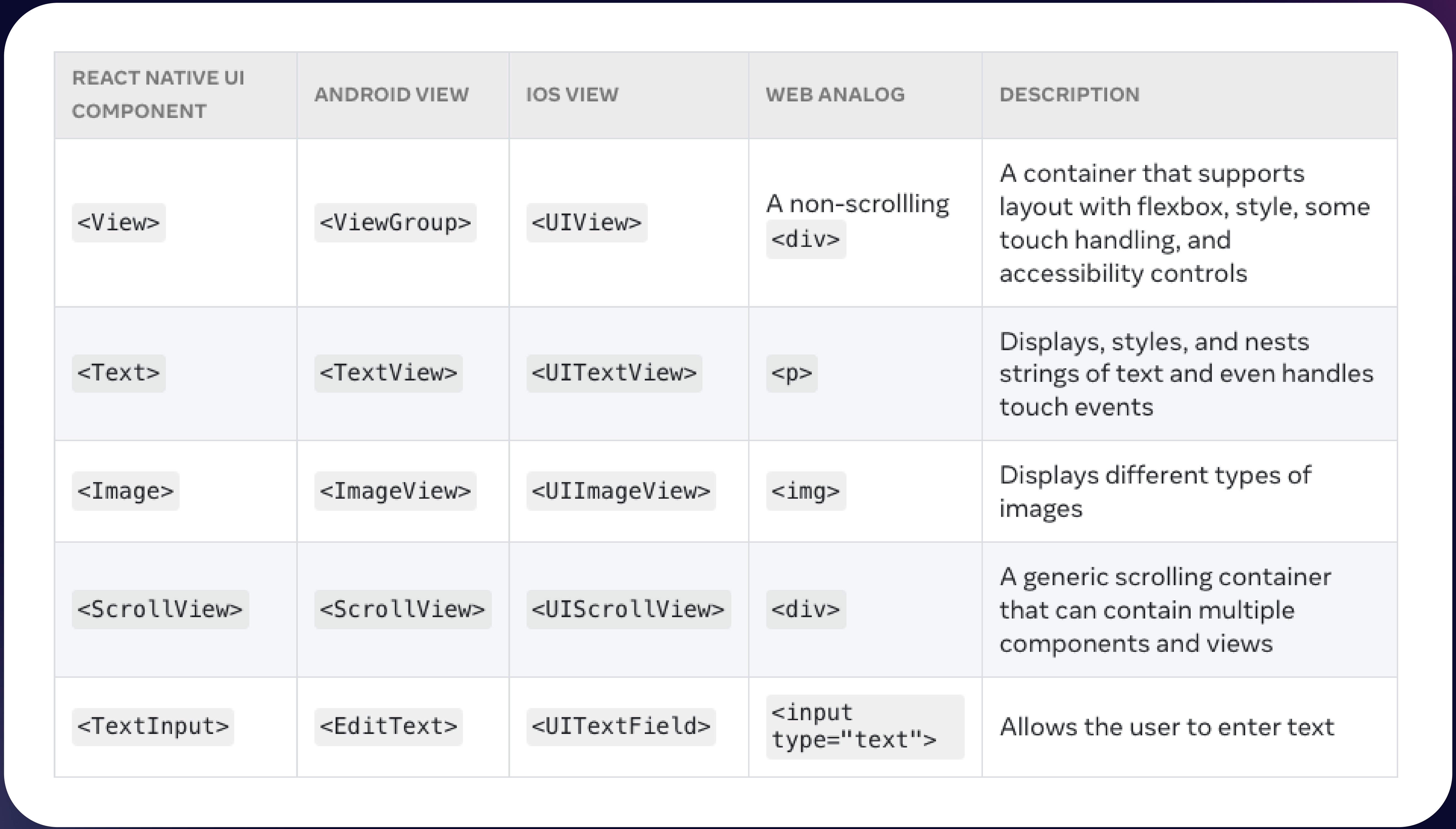
Assuming that you have Node 12 LTS or greater installed, you can use npm to install the Expo CLI command line utility:

```
npm install -g expo-cli
```

Then run the following commands to create a new React Native project called "AwesomeProject":

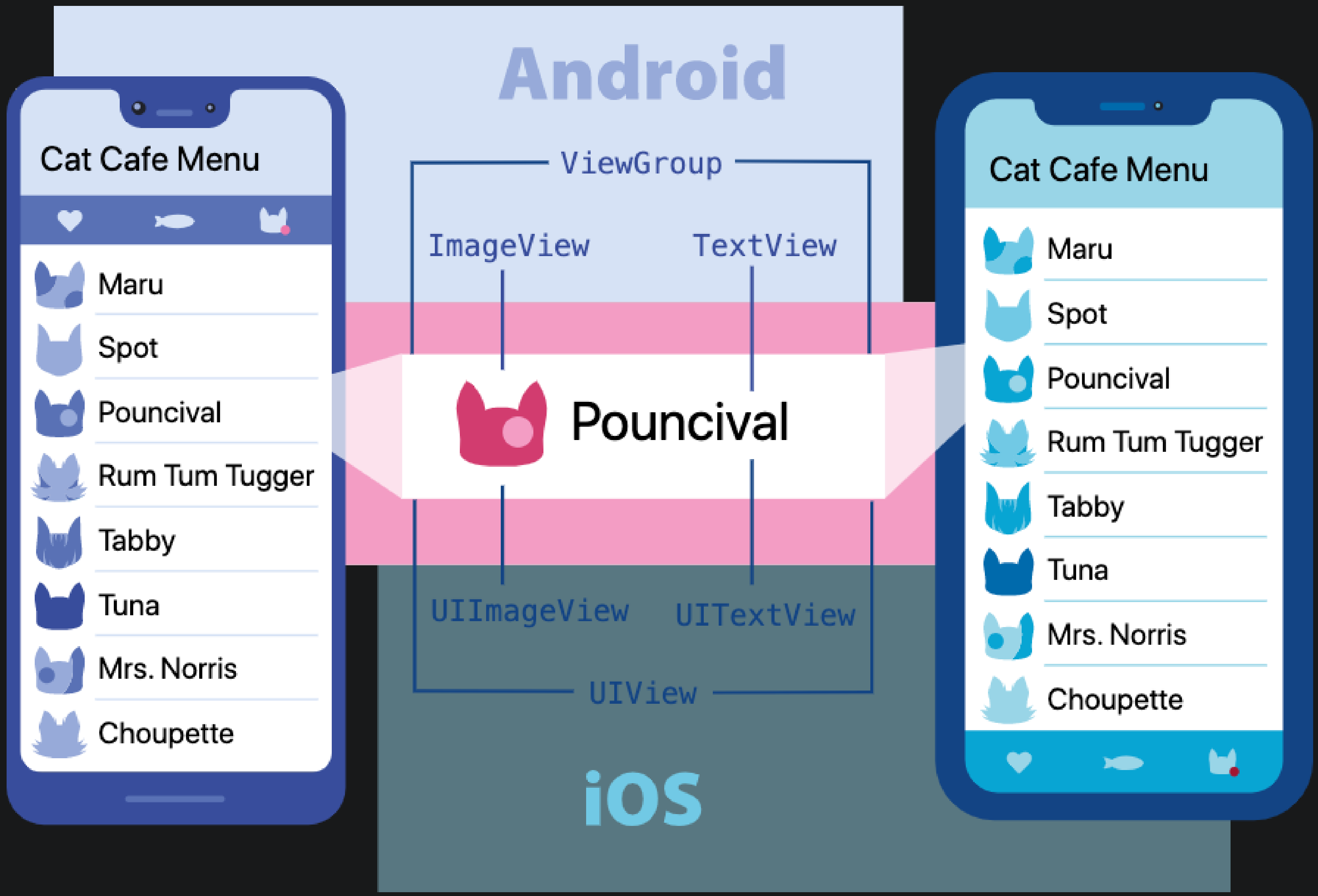
Components

- Core Components
- Native Components



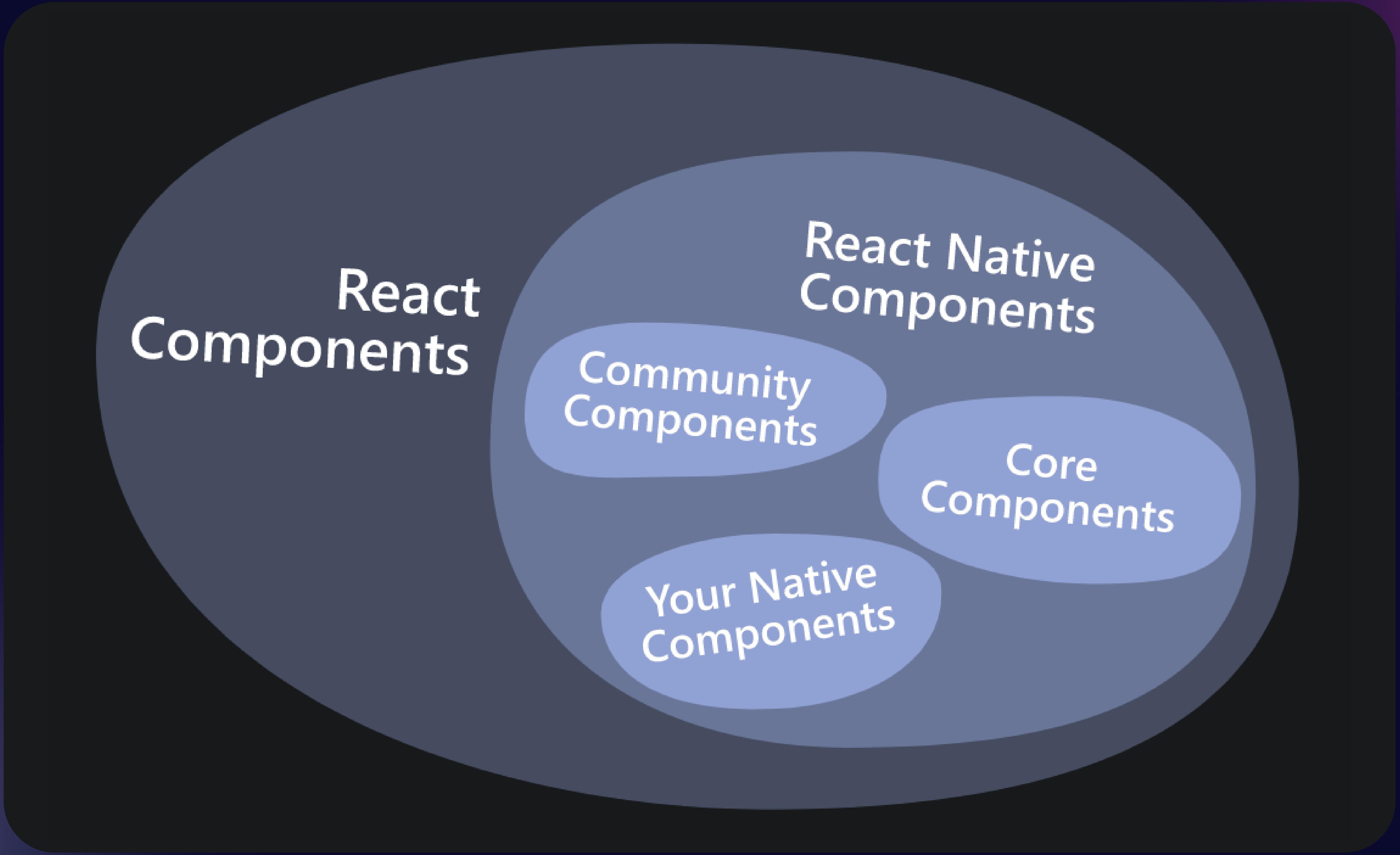
REACT NATIVE UI COMPONENT	ANDROID VIEW	IOS VIEW	WEB ANALOG	DESCRIPTION
`<View>`	`<ViewGroup>`	`<UIView>`	A non-scrollling `<div>`	A container that supports layout with flexbox, style, some touch handling, and accessibility controls
`<Text>`	`<TextView>`	`<UITextView>`	`<p>`	Displays, styles, and nests strings of text and even handles touch events
`<Image>`	`<ImageView>`	`<UIImageView>`	`<img>`	Displays different types of images
`<ScrollView>`	`<ScrollView>`	`<UIScrollView>`	`<div>`	A generic scrolling container that can contain multiple components and views
`<TextInput>`	`<EditText>`	`<UITextField>`	`<input type="text">`	Allows the user to enter text

Core Components VS Native Components



Just a sampling of the many views used in Android and iOS apps.

Core Components VS Native Components

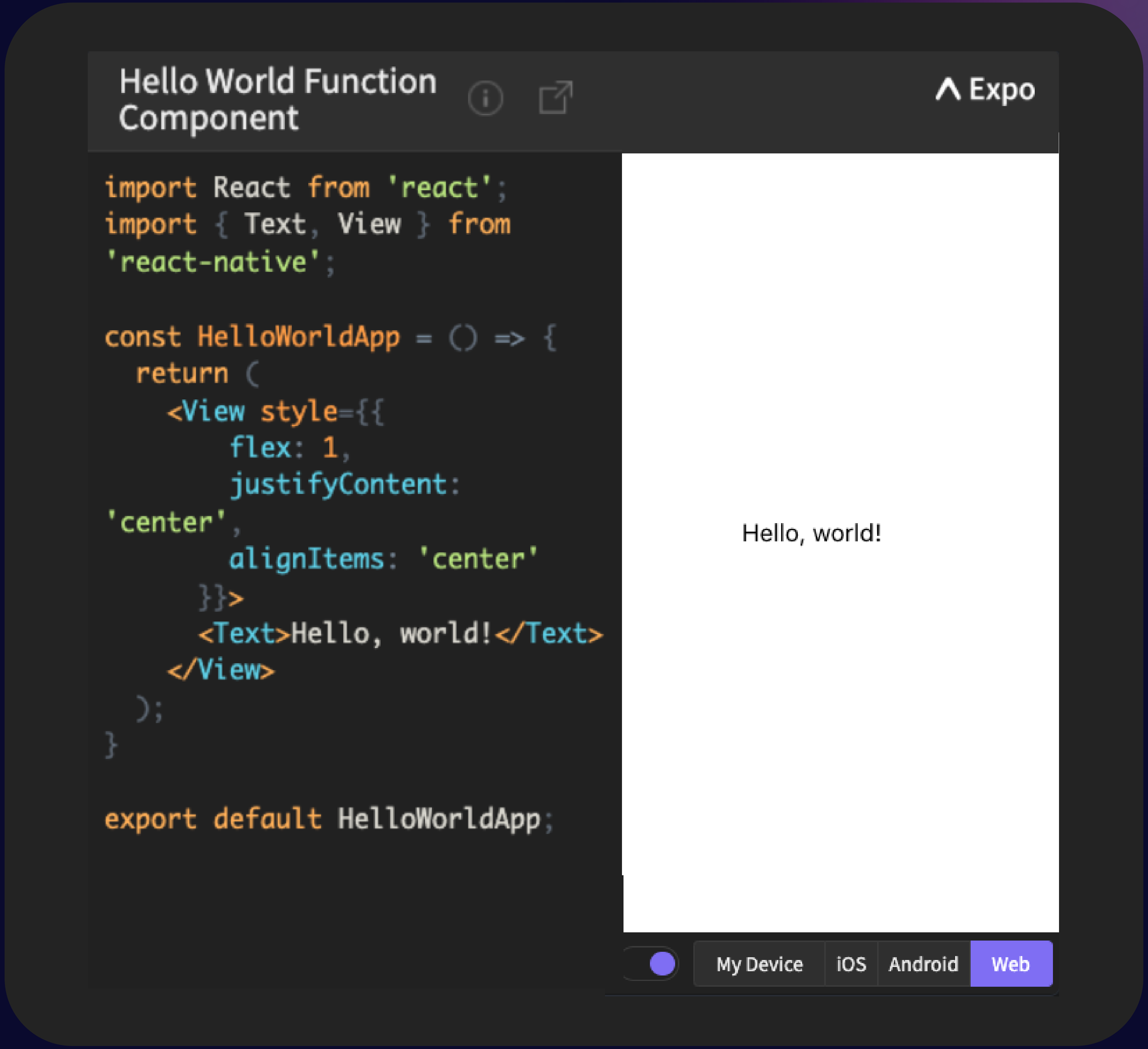

React Components
React Native Components
Community Components
Core Components
Your Native Components

Examples

1

Hello World

Using Function Component



```
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import { Text, View } from
'react-native';

const HelloWorldApp = () => {
  return (
    <View style={{
        flex: 1,
        justifyContent:
'center',
        alignItems: 'center'
      }}>
      <Text>Hello, world!</Text>
    </View>
  );
}

export default HelloWorldApp;
```
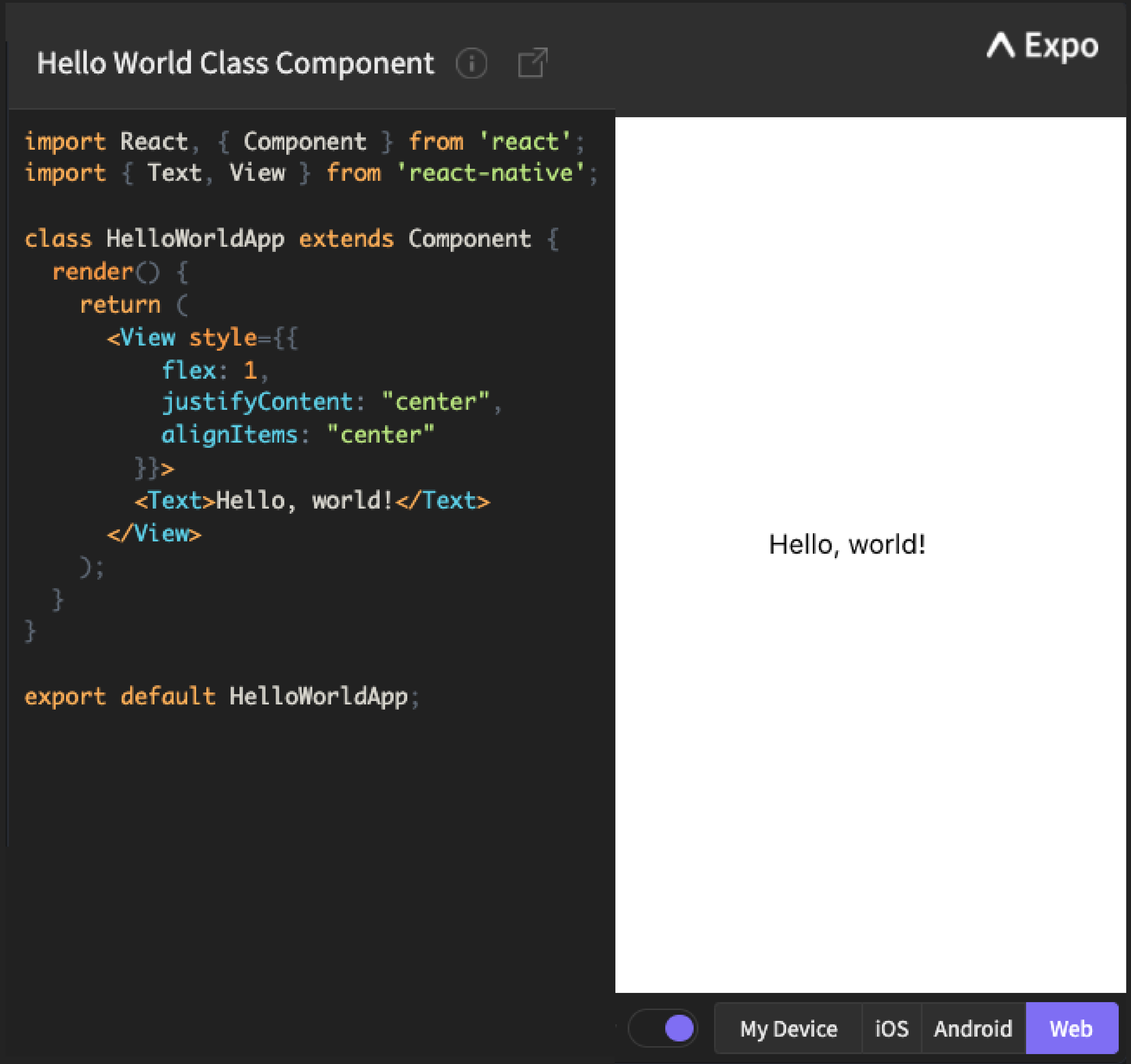

```
Hello, world!
```

2

Hello World

Using Class Component



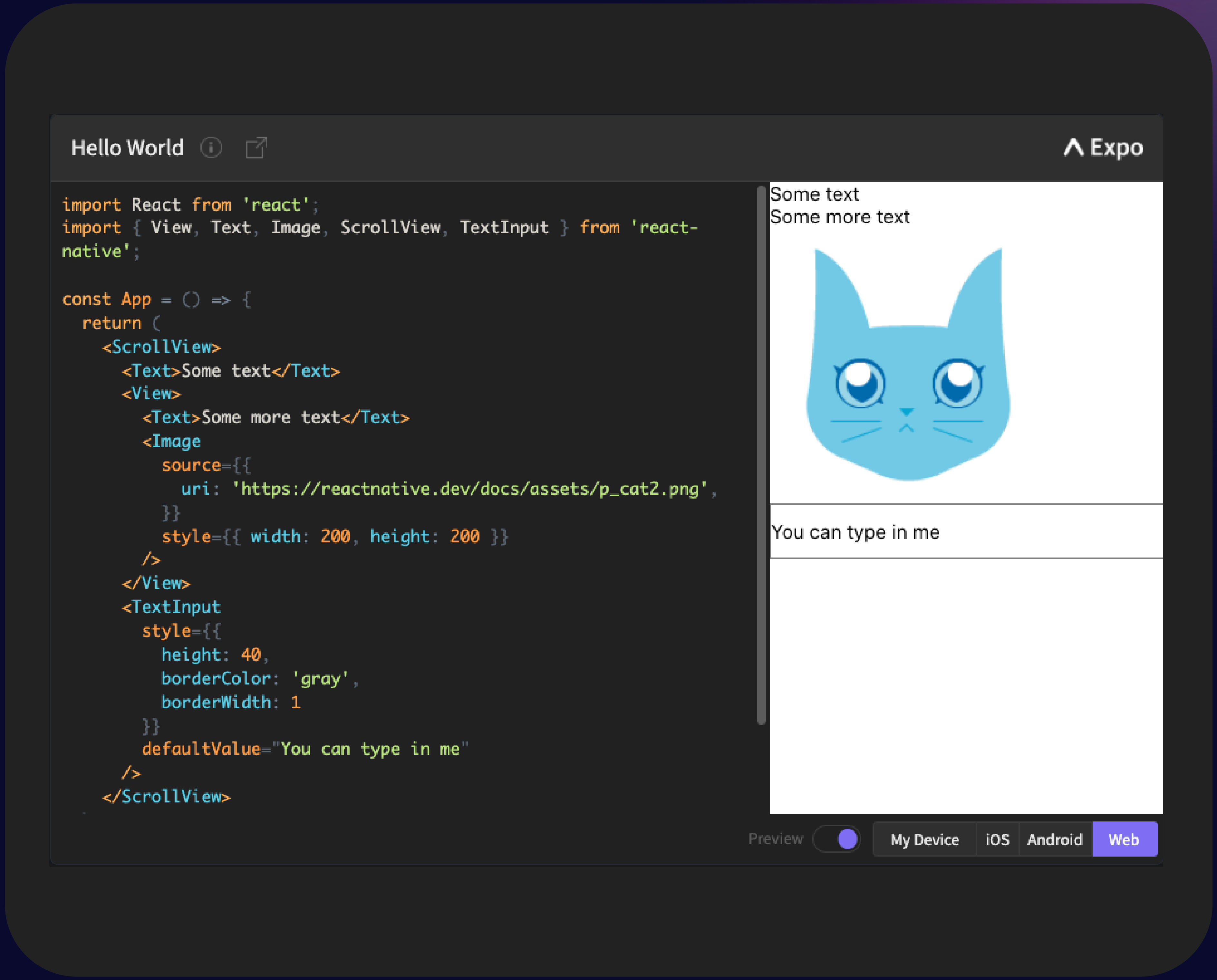
```
import React, { Component } from 'react';
import { Text, View } from 'react-native';

class HelloWorldApp extends Component {
  render() {
    return (
      <View style={{
          flex: 1,
          justifyContent: "center",
          alignItems: "center"
        }}>
        <Text>Hello, world!</Text>
      </View>
    );
  }
}

export default HelloWorldApp;
```

Hello, world!

3

Core Components

Using Function Component



```
import React from 'react';
import { View, Text, Image, ScrollView, TextInput } from 'react-native';

const App = () => {
  return (
    <ScrollView>
      <Text>Some text</Text>
      <View>
        <Text>Some more text</Text>
        <Image
          source={{
            uri: 'https://reactnative.dev/docs/assets/p_cat2.png',
          }}
          style={{ width: 200, height: 200 }}
        />
      </View>
      <TextInput
        style={{
          height: 40,
          borderColor: 'gray',
          borderWidth: 1
        }}
        defaultValue="You can type in me"
      />
    </ScrollView>
```

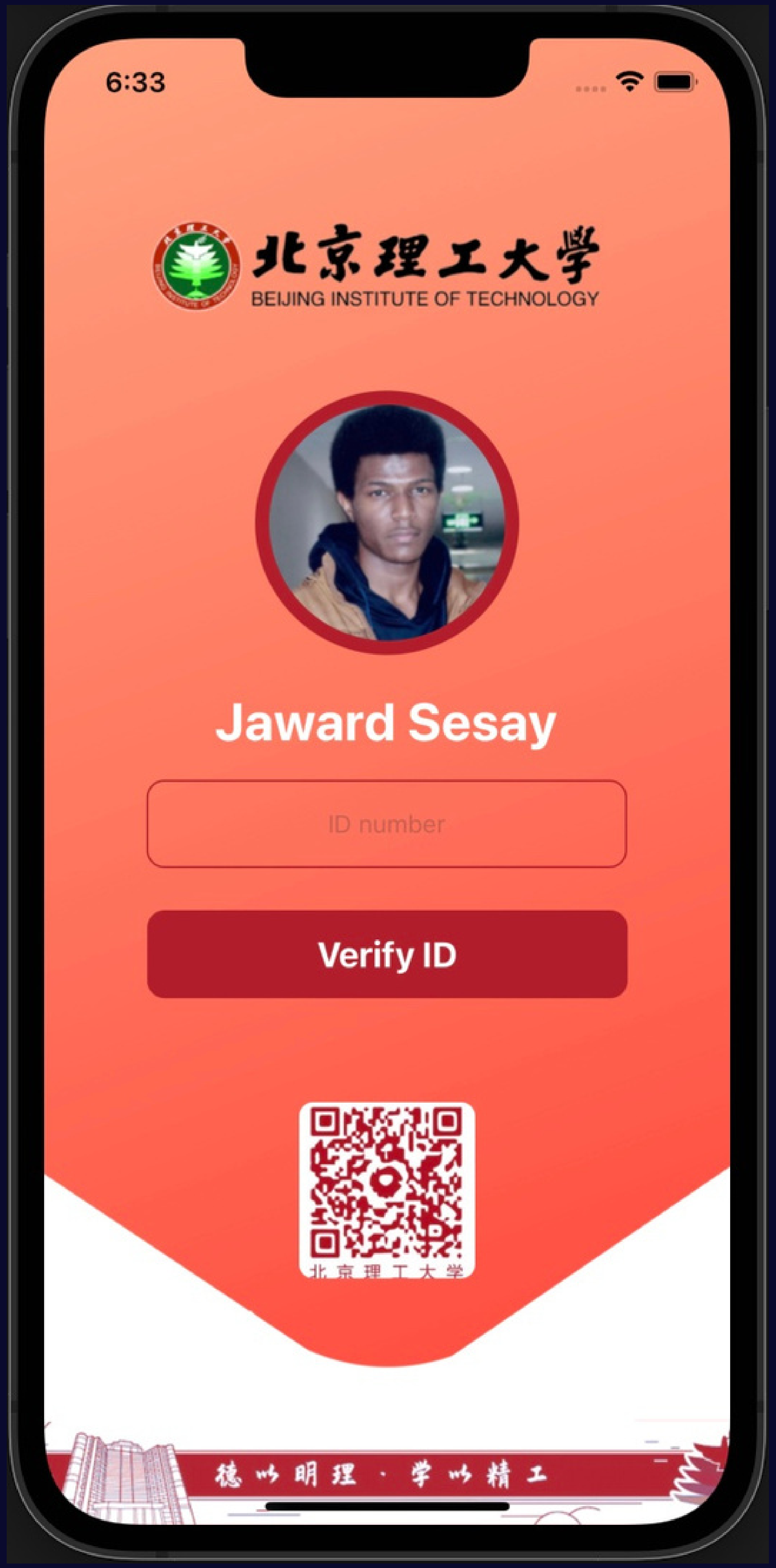
```
Some text
Some more text

You can type in me
```

Project 0

Student ID Authentication App

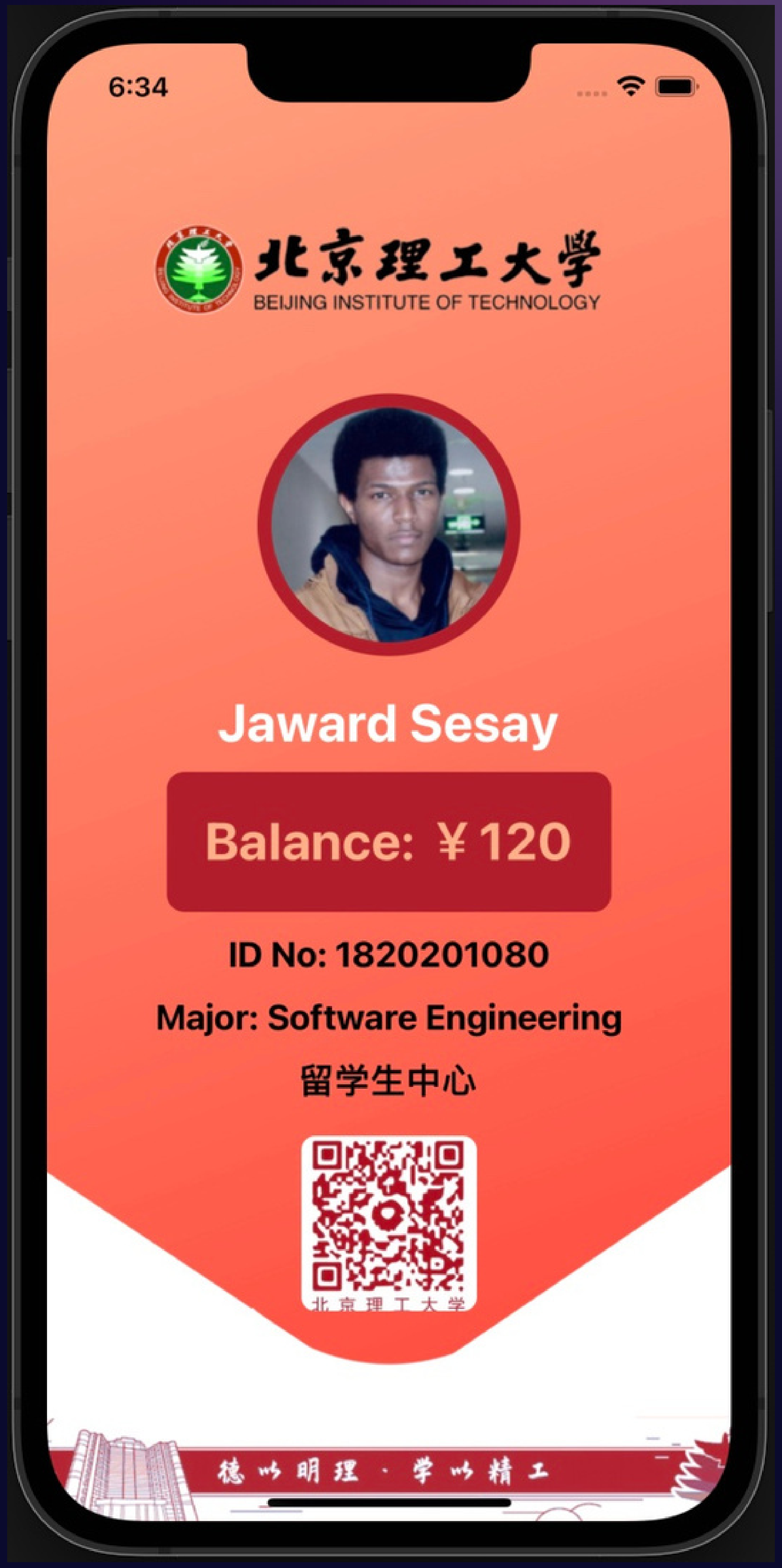
Project 0

Student ID Authentication App



Jaward Sesay

ID number



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留学生中心

Mobile App
Development
with React Native

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The End

See You Next Week